Investigating community-led broadband initiatives as a model for neo-endogenous development

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Abstract

In the context of community-led local development, this research aims to understand the blend of top down and bottom up influences that combine in campaigns for improved rural broadband provision. The representativeness of the membership of rural community broadband initiatives and the motivations and dominant arguments behind their campaigns are analysed from the perspective of neo-endogenous development, which concerns endogenous actors linking to exogenous networks and resources to raise "the potential of local areas to shape their own futures" (Ray, 2001, p4).

A sample of community-led broadband initiatives in the UK and Netherlands are studied as a precursor to two in-depth case studies in the province of Groningen and the county of Lincolnshire. The identification of key success factors enables an assessment of the scope for different rural regions to overcome the digital divide. The role of actors from within the community, the level of financial and other material resources available to them, their organisational and communication skills, network relations and the area specific/place-based nature of the arguments will all be analysed to test the theory of neo-endogenous rural development. Findings can be used to advise other community broadband initiatives and to advise policymakers how best to assess the degree (if any) and type of support that can boost community-led initiatives.

Key words: Rural development; neo-endogenous development; broadband Internet; digital divide; Community-led development

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Introduction

Neoliberal economic philosophy has seen more remote rural areas excluded from faster broadband connections as market forces lead private companies to focus their attention on urban centres and larger clusters of dwellings in rural areas where profitability is greatest (Malecki, 2003; Townsend et al., 2013). Without a market solution, and with European regulation restricting state intervention on the grounds that it would distort the free market (Cambini and Jiang, 2009; Sadowski et al., 2009), a number of community-led initiatives are emerging. Community Action Groups (CAGs) try to find new ways of getting Next Generation Access (NGA) to their community, or lobby for their business case at established telecommunication companies (Salemink and Strijker, 2012). These initiatives provide the focus for this research allowing analysis of local dynamics in rural development policy through a comparison of cases in England and the Netherlands.

Over recent decades, rural development has been re-cast as a process where actions are based on local conditions and local needs rather than following an earlier mainstream hegemony of external interventions to overcome inherent disadvantages (van der Ploeg and Van Dijk, 1996). This has seen a number of initiatives that have enabled rural communities and businesses to pursue alternative forms of local development that are based on local resources and are firmly rooted in their localities. One example of this is the European LEADER approach which exemplifies such “bottom-up” thinking (EU Court of Auditors, 2010) and has empowered local actors to create and invest in new projects to benefit local businesses, community activities and environmental conditions (Furmankiewicz et al., 2010; Murtagh, 2006; Kovách, 2000). While such approaches afford a significant degree of control to local actors, their effectiveness relies on networks that encompass extra-local actors and institutions too. This characterises the theory of neo-endogenous development which is based on local resources and local participation, but is also characterised by dynamic interactions between local areas and their wider environments (Ray, 2001; Gkatzios and Scott, 2013).

Those engaged in rural broadband initiatives are negotiating power relations with a number of external institutions, both private and public sector, while also representing local demands for better digital

connectivity. CAGs can be seen as neo-endogenous actors in the rural development process. As a largely one-directional issue, i.e. groups are campaigning *for* rural broadband but with a number of underlying arguments, rural broadband provides an opportunity to investigate how different cases are presented, who the dominant voices are and how local groups position themselves within complex extra-local networks. As Shucksmith (2010) notes, rural development is increasingly disintegrated, leading to greater negotiation between competing discourses and creating challenges for coordinated local action. The narrower focus of a single issue in this research allows deeper conceptualisation about the new network dynamics that emerge in such specific circumstances.

Rural Broadband and the Rural Penalty

Broadband in rural development: why an essential instrument is missing

Research, policy, and rural residents each state that broadband is essential for social and economic developments, but it is nevertheless lacking in many rural regions (Malecki, 2003; Skerratt, 2010; European Commission, 2012; Milbourne and Kitchen, 2014). Rural areas are poorly served by markets in general, framed by Malecki as 'the rural penalty' (2003: 201). Poor broadband availability has become one aspect of this penalty. In the rural there is too little potential for profits, mainly because the digging is too cost-intensive and only few potential subscribers are reached by underground cables, meaning that it is difficult for providers to achieve the minimum threshold for fulfilling the business case (Sadowski et al., 2009; Cambini and Jiang, 2009; Holt and Galligan, 2012).

Although lacking in rural areas, high-speed broadband is regarded as a requisite for people's access to education and information, e-health, recreational purposes, and entrepreneurial and business activities. The availability, adoption, and use of high-speed promotes and improves these activities, but above all, the absence of it leads to perpetuation of social and economic arrears (Malecki, 2010; Townsend et al., 2013; Salemink et al., 2014/forthcoming). Academia already pointed out the potential of rural broadband at the start of the twenty first century, but since then the urban-rural divide has persisted. It is expected that the existing digital divide between urban and rural areas will persist, as OFCOM (2013) has highlighted that average download speeds are up to three times faster in urban areas than in rural areas.

Partly this is due to the lower availability of technologies that can supply superfast services, but also because the average line length from the exchange (cabinet) to the end-user's premises tends to be longer in rural areas, resulting in increased signal loss and lower ADSL[1] speeds. Research in the province of Groningen in the Netherlands came to similar conclusions (Salemink and Strijker, 2012). In connection to this, Townsend et al. conclude for the UK context that "there is still much work to be done before the divide truly narrows" (2013: 592).

The UK Broadband Impact Study, commissioned by the Department for Culture, Media and Sport, focuses heavily on stimulating "success in the global economy" with "strong and sustainable growth" (2013: 2), while social and environmental impacts take a back stage. This potentially misses the overlap between issues such as better education and quality of life (and in fact the easing of everyday life) and the associated increase in economic fortunes at a regional level. Furthermore, focusing on growth can deflect attention from the equally pressing need to reduce decline in more peripheral rural areas. We therefore hypothesise that increased broadband connectivity and usage can reduce economic decline and empower people to deal with its consequences (LaRose et al., 2011; Townsend et al., 2013).

The need for community action

National and federal governments are struggling to find solutions for 'the rural broadband penalty' (Malecki, 2003; Cambini and Jiang, 2009; Holt and Galligan, 2013). The prevailing free market rationale of the last decades has left governments with limited power and possibilities for solving the problem of a lack of rural broadband provision. As an outcome of national, federal, and European legislation, the interests of market parties are leading when it comes to stimulating investment and provision. In fear of legal and/or financial repercussions, governments are wary of getting into a conflict with telecommunication companies over programs and policies that go against market interests (see also Sadowski et al., 2009; Nucciarelli et al., 2010).

[1] In most cases, ADSL is the single available fixed technology in rural areas

Cambini and Jiang (2009) provide an overview of research on different state-led programs to promote broadband provision in general and their analysis reveals cautious approaches by governments. If telecommunication companies perceive that governments or related institutions disturb their market activities, they often take defensive approaches towards these non-market parties. Overall, policy and regulation measures to stimulate broadband availability in rural areas have not solved the problem of the urban-rural digital divide, leaving rural communities waiting, and above all, excluded from forefront digital developments.

Social and economic problems are arising from decline in rural service provision, as service providers are trying to achieve economies of scale. Potentially these problems could be solved through digital connectivity (see also Milbourne and Kitchen, 2014), but this is not possible with the current data infrastructure (see also LaRose et al., 2007; Townsend et al., 2013). In this respect, stakeholders in the rural share the same problem: their remote location implies poor digital connectivity, i.e. no, or poor quality, broadband. In many rural areas in the UK and the Netherlands residents have decided that they can no longer wait for the market to serve them. They are setting up campaigns and cooperative actions for achieving improved broadband connectivity, forming CAGs for getting access to high speed broadband. Current developments imply that these CAGs can be viewed as 'single issue' driven community-led local development, uniting those who live, work and produce in remote and poorly served locations.

A cohesive and connected countryside?

In light of contemporary debates on the role of communities in rural development, it is important to include the complex character of community-led or community-initiated rural development. The somewhat simplistic view of community-led initiatives as a panacea for rural development issues is being questioned (Shortall, 2004; 2008; Skerratt and Steiner, 2013). Instead, the debate increasingly focuses on shortcomings of rural communities, as opposed to the image of the rural idyll in which rural communities are pictured as a cohesive unity without conflict, struggle or mechanisms of exclusion (Shortall, 2004). Despite the uniting force of a shared and common problem, such as a lack of broadband, the rural should

be viewed in its full complex context. The rural, or countryside, is a diverse spatial entity with many different social groups and stakeholders (Woods, 2007; Skerratt and Steiner, 2013). This diverse set of elements can cohere around a common problem, but are just as easily in conflict when a different issue is at hand.

This view chimes with the theory of Neo-Endogenous Development (NED), which concerns the *interplay* between "local" and "external" actors and networks (Bosworth, 2010) where "economic and other development activity are reoriented to valorise and exploit local resources – physical and human – and thereby to retain as many of the resultant benefits within the local area" (Ray, 2003: 2). In such mixed exogenous/endogenous rural development approaches, "Local policy makers and entrepreneurs are the main actors…[but]…often encouragement from upper administrative levels or other external actors, such as development agencies and universities, will be required" (Terluin, 2003: 343). NED highlights the significance of power relations within and between between networks and Shucksmith (2010: 4) eloquently notes that rather than having "power over" rural areas, a scenario where institutions provide rural territories with the "power to" promote local development is preferred.

Many of the causes of rural change originate from outside the rural area altogether (Cloke, 1995), so for development to be achievable from within, actors need to be connected to valuable networks offering access to innovation, learning and new markets (Murdoch, 2000). This does not mean that all of the development originates from outside the local area but new ideas and opportunities can be co-created through network interactions. As Murdoch explained, "conditions in the global economy (such as rapid technological change) are now seen to place a premium on innovation and learning and this is thought to be conducted most expeditiously within associations of many small firms deeply embedded in local societies and cultures" (2000: 414-415).

From an economic perspective, Solow and Swan's growth function sets out that *ceteris paribus* growth in a closed economy requires "technological progress" to increase the capital/labour ratio and this "technological progress" is seen as an external factor requiring exogenous investment (Vazquez-

Barquero, 2006). In so far as broadband technology is “brought into” the rural by exogenous businesses this may be true, but a number of other actors play key roles: business and community organisations create demand, social innovators seek alternative solutions on the supply side, and local policy groups engage in negotiations to address inequalities. From a contemporary regional development perspective, this model overlooks two essential factors. Firstly, new social and economic theories argue that growth can occur from innovation, learning, and the development of human and social capital *within* groups and regions (Capello et al., 2011). Secondly, regions do not function as closed economies, but instead they are interconnected (Castells, 2005). Together, these concepts characterise the emergence of NED theory.

Having established that rural development can be stimulated from within a local area, NED must also be examined with reference to rural areas being part of a network society (Castells, 2005) where mobilities (Urry, 2007) and interdependencies (Woods, 2007; Lichter and Brown, 2011) pervade. Woods (2007: 491) indicates that globalisation has created a new rural geography “constituted by multiple shifting, tangled and dynamic networks connecting rural to rural and rural to urban” but this is unevenly distributed across rural space. Therefore, as with resource-rich and resource poor rural areas, we also see inequalities between those rural areas with the capacity to interact favourably with global networks while others are subjected to more external influences. Building connectivity and networking capacity once again appears key to rural development potential.

The economic growth opportunities that can be derived from increased connectedness have been well documented, including competitiveness gains from reduced transactions costs, stronger labour markets and information flows and increased exporting potential (McCann, 2011). There is a risk that globalisation might introduce tougher competition to local economies (Cumming and Johan, 2010) and it has been associated with increased corporate concentration in traditional production sectors (Woods, 2007). However, research has also shown that international import networks can be a vehicle for the inflow of knowledge and technology from abroad and a stimulus for new ideas conducive to the renewal and upgrading of a region´s export sector (Malecki, 2010; Andersson et al., 2013). Connected and porous

communities can also benefit from human capital inflows, including entrepreneurial in-migration (Atterton, 2007), social capital accrual (Putnam, 2000) and access to opportunity-rich business networks, which are increasingly supported by digital networks (Lin, 2001). The interplay of the local and the extra-local, that is at the heart of NED, is crystallised in such mobile and interconnected spaces.

Drawing on this NED literature, and with particular reference to Phillip Lowe´s (2003) work, the right hand column in Figure 1 has been added to Ward et al´s (2005) earlier summary of exogenous and endogenous development. Specifically, Lowe (2003: 11) presented three defining points where:

- development should be tackled in a holistic manner, dealing directly with the interrelationships between economic, socio-cultural and physical wellbeing;
- development should be re-oriented so as to valorise and exploit local territorial resources – physical and socio-cultural – with the objective of retaining as much as possible of the resultant benefit within the area concerned; and
- development is defined by the needs, capacities and perspectives of local actors; popular participation is a key principle and modus operandi.

Table 1. The principles of exogenous, endogenous and neo-endogenous development (adapted from Ward *et al* 2005)

	Exogenous development	**Endogenous development**	**Neo-Endogenous Development**
Key principle	Economies of scale & concentration	Harnessing local (natural, human & cultural) resources for sustainable development	Maximising the value of local resources; Competitiveness based on local assets
Dynamic force	Urban growth poles (drivers exogenous to rural areas)	Local initiative & enterprise	Networks of local actors connected to external influences
Functions of	Producing food &	Diverse service	Diverse production and

rural areas	primary products for urban economies	economies	service economy Interdependent – urban demand remains critical for services and traditional sectors alike
Major rural development problems	Low productivity & peripherality	Limited capacity of areas/groups to participate in economic activity	The "Rural Penalty" Connectivity and capacity for participation in networks
Focus of rural development	Agricultural modernisation;	Capacity-building (skills, institutions, infrastructure); overcoming exclusion	Holistic approach to include local empowerment, capacity building, overcoming exclusion, adding value to local resources, enhancing connectivity and promoting innovation

To summarise, this paper recognises the uniting character of broadband in rural areas, but it is nevertheless aware of its complex social, economic, and cultural nature. The right hand column of Table 1 highlights this complexity and provides the basis for the analysis of findings which focus on the following questions: how do CAGs use local resources and build local competitiveness? How are these groups networked? How diverse are the economic stakeholders? Can this approach address the rural penalty? And finally, can broadband initiatives empower more local approaches to rural development?

Method

A sample of community-led broadband initiatives in the UK and Netherlands is used to enable a comparison of how different groups perform and how their discourses and network relations develop over time. Web profiles for each group are used to identify their membership profiles, the types of individuals that assume the leading roles, the relations to governments or businesses, and the stated objectives and arguments used in each case. Community initiatives were identified from the researchers' previous knowledge supplemented by internet searches and snowball sampling. This generated nine cases for each country as set out in Table 2.

Table 2. Sample of community initiatives for broadband

The Netherlands:

Initiative and Geography	Key persons and drivers	Network relations of key drivers	Arguments used for campaigning
Stichting Oldambt Verbindt Municipality level www.oldambtverbindt.nl	Mix of municipal policy officer and directors of semi-public institutions	Board members related to semi-public institutions have strong ties to governmental agencies and politicians Business representatives are part of local business networks	Broader rural development argument ("it's essential for many aspects of everyday rural life") with tendency towards eHealth for ageing population
ECO Oostermoer Local community action group www.eco-oostermoer.nl	Local residents and active volunteers; hired a professional consultancy company for project management		Broadband as essential asset for liveability of rural areas, reducing impacts of declining service and amenity levels, 'countering the vicious cycle'
Initiatiefgroep Glasvezel Notter-Zuna (Gemeenschappelijk Belang Notter-Zuna) Local community action group www.notterzuna.nl	Local residents and active volunteers; Broadband is a key point of the 'Dorpsplan Plus'	Active volunteers have strong links to local businesses, including agricultural	Broader rural development argument ("the rural can't do without")
Initiatiefgroep Glasvezel SPOW (Stichting Plattelandsontwikkeling Wierden) Local community action group www.spow-wierden.nl	Local residents, active volunteers; 'Gebiedscoördinator' or regional coordinator, originally from farming business(SPOW recently lost funding for her)	Regional coordinator has both business links (mainly farming) and policy links	Broader rural development argument, discuss many sectors but stress importance for rural businesses, especially agriculture
Initiatiefgroep Glasvezel Buitengebied Putten Local community action group www.regio-putten.nl and www.regio-	Local residents and active volunteers; automation and ICT entrepreneurs are key drivers	Automation and ICT entrepreneurs have strong links to businesses and are technology literate	"Residents within the village envelope get it but we don't", fibre optics makes you ready for the future

putten.nl/documenten/flyer.pdf			
Buren op Glas Local campaigning initiative, municipality of Neder-Betuwe www.burenopglas.nl	Local residents, active because of broadband issue (unifying aspect)	Strong links to established (biggest) fibre optic provider in the Netherlands, Reggefiber/KPN	Initiate demand bundling for sufficient demand Political argument: "All the villages get it, so we outside the villages should get it as well", make sure the countryside is not left out because broadband is essential
Three initiatives related to Cogas (Twente) Bottom-up initiatives supported by Cogas, the regional cable company - Denekamp - Tubbergen - Borne	Cogas tries to stimulate activity in countryside areas Cogas is searching for stakeholders to become active Aiming for bottom-up initiatives on a community level; community defined on basis of '*het buitengebied*' (areas outside village envelope)	Regional cable company, owned by nine municipalities in Twente Cogas has an interest in creating goodwill in its market areas	Broader rural development argument "We are the first company in the Netherlands that wants to include the whole of the countryside in his market area in new plans" (create goodwill)

England:

Initiative and Geography	**Key persons and drivers**	**Network relations of key drivers**	**Arguments used for campaigning**
Great Asby Village level Community Interest Company www.gabroadband.net	CIC set up by retired professional individuals - one is brother to Lord Mandelson generating political leverage. Integrated with Parish Council	Accessed rural community development funding in 2012 as a pilot project(now connected into County Council programme)	Affordability for residents and businesses alike.
Alconbury Telecom Local residents from two villages	Seeking "local champion" to raise awareness and help prove demand levels	Working with Connecting Cambridgeshire, a county council initiative to support local	"fed up with slow internet and determined to do something about it" Business focused -

http://alconburytelecom.co.uk/		campaigns	promote support for businesses too
"Wolds Broadband" Walton & Burton on the Wolds, Leicestershire Local community action group www.woldsbroadband.com	Working group established by Burton, Cotes and Prestwold parish council Parish Council. Other interested members of the community are invited to join (with a maximum of 10 in total). The Chairman of the Working Party shall be a Parish Councillor.	The website states that: *many details regarding this project are dependent on the Superfast Leicestershire project*. (a County Council group) Informal links to local business community	The website sets out 13 individual and 6 business points why superfast broadband matters No single dominant argument from website – it's more about assessing demand and trying to catch up with the rest of UK. "The Working Group's objectives include affordability (for residential and business use) as one of the core aspects of the project"
Sutton Broadband, Sutton on the Hill and surrounding villages, Derbyshire Local campaign group http://suttonbroadband.co.uk /blog/	Anonymous individual activists hosting a live blog	None evident - vehemently anti-public sector rhetoric. Provide information on progress and new providers in the area	Unfairness and lack of transparency of local democracy.
Newton and Bywell, Northumberland Community enterprise covering two villages www.newtonandbywell.org/broadband-scheme.php	The Board comprises local individuals with a range of business experience. Local volunteers are engaged too.	Connected to the Northumberland-wide campaign Accessed Big Lottery funding	The website sets out arguments under four broad headings: education; economic and employability; health and well-being; reducing isolation.
BetterbroadbandSuffolk Suffolk County Council Initiative http://www.betterbroadbandsuffolk.com/	Directed by a board composed of council leaders, chief executives, business representatives and council officers, chaired by council leader.	Working closely with business groups the Federation of Small Businesses, the New Anglia LEP, Suffolk ACRE and the district/ borough councils within Suffolk.	target 90% superfast and something to everyone by 2015. Increase efficiency of Council service delivery
"Fibrelincs"	Community interest	Community workforce	Market forces exclude

Cluster of villages in Lincolnshire http://www.fibrelincs.org.uk/introduction/	company, owned and maintained by local communities	to help lay cables Connected to other local initiatives No reference to policy or supplier networks	them The value of homes will increase (Tallington)
Honeybourne, Worcestershire Village based community group for Honeybourne and Pebworth http://www.honeybourne.org.uk/broadband-campaign/	Independent campaigners who formed a group in 2011. Professionals with business/employment reasons for better home broadband.	Engage specialist consultants Applying for grants Lobbying suppliers and County council	Unsure whether they will be included in the County's 90% target "future-proof the village"

The context and composition of the initiatives are analysed to explore the different motivations that can be attributed to groups with more business representation, more community participation or more policy oriented groups. We set out the variety of arguments that are being used in order to support local campaigns for broadband. In particular, attention will be given to the outward and inward ties that are used by the community initiatives. Next to this, we will evaluate the role of (semi)public institutions and businesses in driving the process of getting connected. The analysis presented here is a precursor to two in-depth case studies in the province of Groningen and the county of Lincolnshire.

Comparing the UK and the Netherlands: Community responses towards the issue of broadband

Key persons and their target groups

Following the logic of NED, local communities cannot "create" their own broadband service purely endogenously, nor can they rely on top-down policy or (inter)national companies to provide universal coverage. In the face of a weak bargaining position, however, local entrepreneurs, community groups and policy makers are still key drivers for sustaining local action. The CAGs that are included in our dataset show that there is a great variety in the people that are "driving" the initiatives, with relations to various economic sectors, volunteering activities and local clubs. Furthermore, our dataset implies that there is no generic profile of "broadband campaigners". The composition of the groups seems to be a predictor for

the campaign narrative and arguments that are used. More business-related representatives implies that the groups focuses more on business development arguments for broadband, sometimes specific for one sector such as agriculture (for example Initiatiefgroep Glasvezel SPOW in the Netherlands).

The endowment of the local community with human capital, as well as with network links to external influences, is important both for the emergence of and participation in CAGs and for their subsequent trajectories. Next to having the networked link, it is important for CAGs to be able to apply different literacies (see also Skerratt and Steiner, 2013). Dialogue and negotiation with governmental organisations about possible subsidies or negotiations with telecommunications companies on technical maintenance require different literacies, but both are equally important in the process of achieving broadband provision.

Arguments for broadband

Analysis of the case study groups identifies a range of arguments, from recreational and lifestyle factors at one end of the spectrum, where fairness is seen to be paramount, through to clearly set out business cases on the other, for convincing the market to nevertheless invest. Issues such as e-health, education and access to wider public service are used to reinforce campaigns, which vary according to both the make-up of the CAG and the audience to whom they are communicating their case. In one case the notion that this is essential to "future-proof" the village highlights the sense that superfast broadband is seen as a necessity for the sustainability of rural communities based on the assumption that the Internet will continue to penetrate many aspects of our lives.

The spectrum of business case arguments on the one hand and essential service arguments (for the purpose of general rural development) on the other, shows that there are different narratives for broadband provision among the communities. This leads to the arguments being framed differently. Rather than regarding it as a utility that everyone should be entitled to, and preferring the government to be responsible for the deployment regardless of financial gaps, broadband is framed as a tool for the

advancement of the local economy and community development that is provided based on return on investment calculations.

The community action groups in the Netherlands mainly use general rural development arguments for their campaigns. The groups look to governments, mostly regional, for funding, but they tend to avoid too much politicization of the problems. The reasoning for this in for example Oldambt is that 'although we might experience it as a penalty, it's now up to us for trying to solve it' (Board meeting Stichting Oldambt Verbindt, May 9 2014).

Demand bundling and the dialogue with the broadband market

Rural areas are underserved by markets and little is to be expected for the future. When communities approach the market, big telco's such as British Telecom in the UK and Reggefiber in the Netherlands, they are told to generate a business case. Usually such a business case requires at least 60% of the residents to subscribe to the plans, but most communities do not reach that target (Salemink and Strijker, 2012).

Communities also approach the council or the municipality. If these local governments are willing to negotiate about the needs of the communities, the message is that the communities should create a business case, in order to support their call for help. In general, local and regional governments are only willing to support community initiatives if they serve the needs of a large share of those communities. Even if governments are willing to support the initiatives, it is often hard to make a case for financial support, due to restrictive European regulations on state support (European Commission, 2012; Salemink and Strijker, 2012; Townsend et al., 2013).

Bonding or bridging: community responses to broadband markets

In general we find two styles of response: an activist response and a dialogue/negotiative response. Initiatives in the UK appear to be more activistic by character (opposing against a common unfairness), stressing the unfairness of market and governmental positions, while in the Netherlands the initiatives are more in favour of dialogue and negotiation with the market and governments, and are less politicised.

Both responses are unifying, but in different ways. Solidarity among the more activist groups creates internal "bonding" relationships while the negotiating groups form more "bridging" relationships while also drawing campaigners together around common issue. We also suggest that this latter approach, focusing on rural development rather than unfairness, builds community capacity. This can allow CAG participants to engage in further bottom-up initiatives and strengthen local development potential. In particular, those CAGs with a wider representation seem more likely to take up the general rural development arguments, as an interest for all people living in rural and unserved areas.

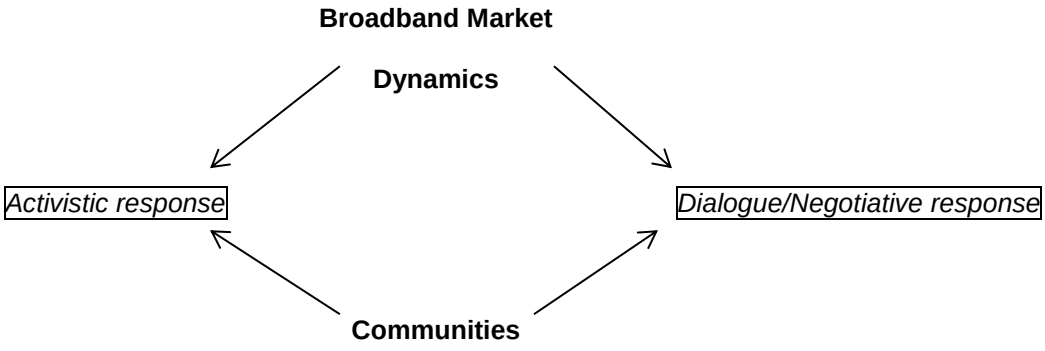
Despite the contrast, both types of response are inherently neo-endogenous in nature. The activists may be positioning themselves against the dominant policy or private sector actors, but this positioning is a reaction to the external forces at play. This echoes Cloke's (1995) point that many of the causes of rural change originate from outside the rural area altogether. While the group may be characterised more by internal solidarity and be reliant on bonding ties, as from the work of Putnam (2000) on social capital, they are not acting in a purely endogenous manner. Groups that engage in dialogue to build 'bridging ties' seem more typical of the neo-endogenous approach, but here too we can analyse where the power lies. A number of groups are developing arguments to meet criteria established by national telecoms companies or public funding bodies, so although the action and initiatives might occur at the local level, the 'rules of the game' are perhaps less negotiable that we might first assume.

One of the cases, in which the County Council operates at a wider geography, is indicative of a more supportive approach, seeking to stimulate action from more local groups. In line with Shucksmith's (2010) argument that neo-endogenous development requires policy organisations to act as facilitators, we can see that this is emerging as a positive means to generate collaboration. In Hampshire (insufficient details were available for this to be a full case), the County Council operated a similar scheme which included the provision of promotion materials for local groups to use. For these initiatives, the availability of government funds combined with government targets for broadband coverage have combined with a desire to stimulate local action, indicating that neo-endogenous development can be triggered by either

top-down or bottom-up stimuli. However, the key is that the trajectory of the subsequent action is led by local actors to reflect local circumstances.

The process of demand bundling, performed by the local communities, exemplifies the neo-endogenous character of campaigning for broadband. In response to externally imposed power relations, CAGs start to bundle the available demand in their community. When responding to the criteria of the telecommunications companies, the demand bundling takes place in order to satisfy the hegemony of the neoliberal marketplace, in which there is only room for profitable initiatives. When responding to the criteria for funding of local or regional government, however, the demand bundling serves as a way to demonstrate the democratic principle, since governmental funding can be politically justified more easily if a significant majority of the community is in favour of the measure which should be adopted. Cases in the Netherlands (Salemink and Strijker, 2012) show that the business case criteria of telecommunications companies, i.e. over 50% has to subscribe in order to achieve a profitable business case, coincides with the referendum logic as applied by local and regional governments, i.e. a majority should be in favour of it before funding will be approved (see also Ministry of Economic Affairs, Agriculture and Innovation, 2012).

Figure 1 is a summarised visualisation of the relation between the external hegemony of the broadband market and the local community responses. Although apparently dichotomous in this figure, both the activistic response and the dialogue/negotiative response are the result of the interaction between exogenic and endogenic dynamics, highlighting the neo-endogenous character of community broadband initiatives.



Conclusion

Campaigning against the rural penalty?

Broadband availability in rural areas has been a topic of study and policy for more than a decade now (Malecki, 2003; Townsend et al., 2013). So far, the availability of broadband has been viewed as an essential prerequisite for social and economic development, and a lack of it is assumed to lead to decline and deprivation. We contribute to the development of this debate by viewing community action groups and campaigns for broadband as a part of a neo-endogenous rural development process. With rural areas left unserved by the market, communities are no longer willing to wait for market-led action, and instead they start community-led initiatives to get broadband access. The lack of broadband availability seems to be a common and shared problem, uniting all those who live, work, and produce in the countryside and bringing together different discourses (see Shucksmith, 2010: 12 on discourse).

The case in the UK and the Netherlands show a great variety of key persons, volunteers and network relations. Network relations of key persons in the CAGs, for example with specific economic sectors, are reflected in the choice of arguments for the campaign. CAGs in the Netherlands tend to argue that broadband is a crucial tool for rural development in general, emphasising the 'bridging' character of broadband issues. Initiatives in the UK more often stress that people in rural areas are entitled to the same amenities as people in urban areas, highlighting the inequity of 'the rural penalty' in an attempt to achieve an internal bonding effect.

Neo-endogenous rural development in the digital age

The initiatives in the UK and the Netherlands show that local communities cannot solve 'the rural penalty' independently from exogenous dynamics. CAGs for broadband evolve through an interplay between *local* resources, preferences and capabilities, and *externally* governed hegemonies, such as neoliberal market rationale and democratic principles. A business case providing bundled local demand appears to be inescapable in order to get the conversation started between 'the local' and 'the external'. Without a solid business case, generally proving that at least half of the residents of the community will sign up for the

new technology, market parties will not start the conversation and governments will not provide a subsidy or other support.

Communities take action, but whether they are now in control is still very much the question. This paper provides insights in the actions for rural broadband, but more importantly it serves as a precursor for in-depth analysis of CAGs. For now we know that they address the rural penalty and the potential of broadband, but more insights on their degree of success is much needed. Our future research will therefore discuss why some CAGs succeed, while others do not.

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